

# Planning For Bushfire Protection



Ronald Coffey  
0408 220 443  
31 Collins Street North Narrabeen  
Sydney NSW 2101  
Email: [ron.coffey@bigpond.com](mailto:ron.coffey@bigpond.com)  
Web: [www.bushfireconsultants.com.au](http://www.bushfireconsultants.com.au)  
Reference: 1355  
25/08/2019

## Bushfire Risk Assessment Report

In relation to proposed development at:

No 39 Ballyshannon Road, Killarney Heights

*In accordance with the requirements of 4.14 of the EP&A Act No 203 Part (1) [b] This Assessment has been prepared and Certified by: Ronald Coffey  
BPAD – A Certified Practitioner  
FPAA Cert. No: BPD-PA 09328*

Can this proposal comply with AS3959,  
2009 + addendum to Appendix 3 of PBP?

**YES**

What is the recommended level of  
compliance AS3959, 2009?

**BAL FZ**

Does this development comply with the  
requirements of PBP?

**YES**

Does this development comply with the  
Aims and objectives of PBP?

**YES**

Is referral to the NSW RFS required?

**YES**

*This assessment confirms that the proposal conforms to the specifications and requirements, that are relevant to the development, of the version (as prescribed by the regulations) of the document entitled Planning for Bushfire Protection prepared by the NSW Fire Service in co-operation with the NSW Department of Planning.*

## Contents

### Introduction

- 1) Location
- 2) Development Proposal and Building Classifications
- 3) Description of the Subject Property
- 4) Classification of the Vegetation on and surrounding the Site
- 5) Assessment of Effective Slope
- 6) Access and Egress
- 7) Water Supplies
- 8) Environment considerations
- 9) Bushfire Threat Assessment
- 10) Assessment of the extent to which the development proposal Conforms or Deviates with Chapter 4 of Planning for Bushfire Protection
- 11) Recommendations
- 12) Summary
- 13) References

## Introduction

The purpose of this report is to determine the category of bushfire attack and subsequent construction standard for the proposed development of alterations and additions at No 39 Ballyshannon Road, Killarney Heights.

The site is identified as 'bush fire prone land' for the purposes of Section 146 of the *Environmental Planning and Assessment Act 1979* and the legislative requirements for building on bushfire prone lands are applicable.

The proposed development is an infill development as defined within Chapter 4.3.5 of Planning for Bushfire Protection 2006 and this report has been prepared in accordance with the requirements of section 4.14 of the Environment Planning and Assessment Act.

This assessment includes an analysis of the hazard, threat and subsequent risk to the development proposal and provides recommendations that satisfy the Objectives and Performance requirements of the Building Code of Australia, Planning for Bushfire Protection 2006 [PBP] and Australian Standard AS3959, 2009.

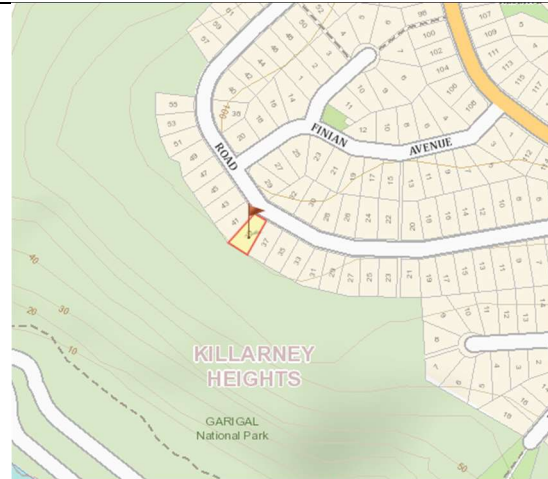
The site was inspected: 24/08/2019

## Summary of Assessment

- Building construction and design – AS3959, 2009 BAL FZ
- Asset Protection zones - Do not conform to the requirements of PBP; however, construction standards have been increased to the highest level for the flame zone category of bushfire attack
- Landscaping - Conforms to the requirements of PBP
- Access and egress arrangements – Conforms to the requirements of PBP
- Water supply and utilities - Conforms to the requirements of PBP
- Defendable space - Conforms to the requirements of PBP
- Emergency Risk Management – Discussed and recommended

### 1) Location

No 39 Ballyshannon Road, Killarney Heights  
Heights  
Lot 9, DP 758 566  
LGA – Northern Beaches Council



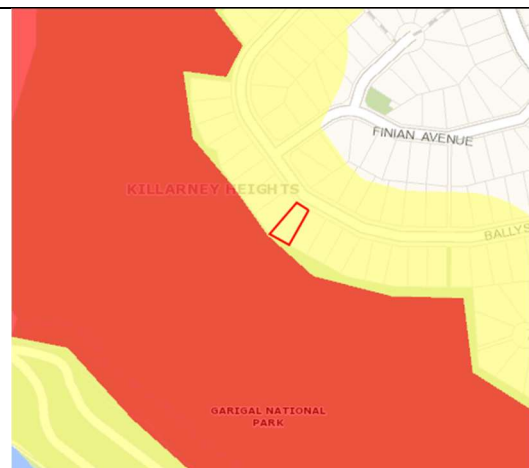
### 2) Development Proposal and Building Classifications

The proposal is for alterations and additions to an existing class 1A dwelling.

### 3) Description of the Subject

#### Property

The development site is a residential lot facing north-east onto Ballyshannon Road. The following sections 4-8 describe in detail the vegetation, slope, access and egress, availability of water supplies and environmental considerations for the site. The adjacent image is the bushfire prone land map for the area.



+ Vegetation Category 1 (pub. 2017-08-10)

+ Vegetation Buffer (pub. 2017-08-10)

+ Vegetation Category 2 (pub. 2017-08-10)

+ Vegetation Buffer (pub. 2017-08-10)



0

2

0



#### 4) Classification of the Vegetation on and surrounding the Site

The site is developed and maintained and there is no threat from bushfire attack on the site.



North and east: Properties north and east of the subject site are developed and maintained and there is no threat of bushfire attack from these directions for more than 100m.

South and west: Adjoining the southern boundary of the subject site is an area of bushland that is considered a threat from bushfire attack to the site. With reference to PBP and the bushfire prone land map for the area the classification of vegetation for this hazard is forest.

#### 5) Assessment of Effective Slope

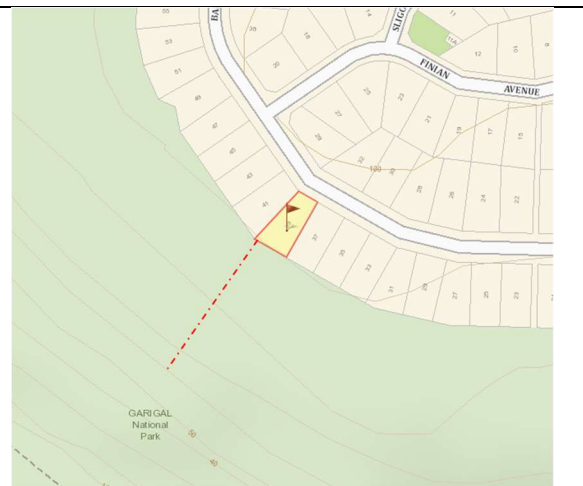
Effective slope away from the development site:

North: No hazard for >100m

South: 17 degrees downslope

East: No hazard for >100m

West: 17 degrees downslope



## 6) Access and Egress

The site has direct access to Ballyshannon Road, which is a public road, and access and egress for emergency vehicles and evacuation is in opposite directions and appears adequate.

## 7) Adequacy of water supply

The area has reticulated water supply and hydrants are spaced at regular distances along Ballyshannon Road.

## 8) Environmental Considerations

The scope of this assessment has not been to provide an environmental assessment; however, the subject site is a small residential lot that has been developed for many years and it appears that the proposed development will have no adverse environmental effect.

## 9) Bushfire Risk Assessment

**Table 1;** Reference AS3959, 2009 Table 2.4.2

Determination of category of bushfire attack for the site and subsequent required building standards

Direction	Distance of APZ	Vegetation Classification	Assessment of Effective Slope	Anticipated Radiant heat	Bushfire Attack Level (BAL)
North	>140m	Developed sites	n/a	>40kw/m2	BAL FZ
South-west	15m	Forest	17 degrees downslope	-	-
East	>140m	Developed sites	n/a	-	-
West	16m	Forest	10-15 degrees downslope	>40kw/m2	BAL FZ
<p>Summary: Based upon the relevant provisions of PBP the category of bushfire attack is for the site is 'Flame zone' which is considered beyond the scope of AS 3959-2009. To determine construction standards to allow development to proceed, alternate solutions must be introduced which satisfy the performance requirements Part 2.3.4 of the BCA Volume 2.</p> <p>The NSW RFS does not support the principle of shielding for BAL FZ.</p>					

## 10) Assessment of the extent to which the construction conforms or deviates from Chapter 4 of 'Planning for Bushfire Protection 2006'

The proposed development conforms to the requirements of PBP for bushfire protection measures for infill development in relation to:

Performance Criteria	Acceptable Solutions	Meets Performance Criteria
The intent may be achieved where:		
<u>In relation to APZ's:</u> - Defendable space is provided - An APZ is provided and maintained for the life of the building	Defendable space is provided on all sides of the building Asset protection zones are provided partially on site and by adjoining development and public roads. APZ's cannot be provided on all sides of the dwelling in accordance with the minimum requirements of PBP; however, construction standards for development in the flame zone category of bushfire attack have been recommended.	Yes
<u>In relation to siting and design:</u> Buildings are sited and designed to minimise the risk of bushfire attack	The siting of the building has been previously determined in accordance with local council requirements and the proposed additions and alterations will not involve a re-siting of the building [no advantage could be gained by recommending a re-siting of the building].	Yes
<u>In relation to construction standards:</u> It is demonstrated that the proposed building can withstand bushfire attack in the form of wind, smoke, embers, radiant heat and flame contact.	Construction standards have been recommended in accordance with the requirements of PBP.	Yes
<u>In relation to access requirements:</u> Safe operational access is provided [and maintained] for emergency services personnel in suppressing a bushfire while residents are seeking to relocate, in advance of a bushfire.	The access and egress requirements have been designed to provide safe and effective evacuation from the subject site and appear to be adequate for fire brigade personnel and firefighting equipment.	Yes
<u>In relation to water and utility services:</u> - Adequate water and electricity services are provided for fire-fighting operations  - gas and electricity services are located so as to not contribute to the risk to a building.	The area has reticulated water supply and the nearest street hydrant is within the minimum required distance from the most distant point of the subject site in accordance with the requirements of PBP and AS2419.1 2005  This report shall recommend compliance with PBP 4.1.3 for services including electricity and gas.	Yes

<u>In relation to landscaping:</u> It is designed and managed to minimise flame contact and radiant heat to buildings, and the potential for wind driven embers to cause ignitions	The site is landscaped and managed and no part of the site is shown on the bushfire prone land map as a hazard. The development application shall include recommendations that the site is managed in accordance with Inner Protection Area requirements of PBP.	Yes
<u>In relation to Emergency and Evacuation Planning:</u>	The need to formulate an emergency evacuation plan has been discussed and it is advised that the residents should complete a <i>Bush Fire Survival Plan</i> as formulated by the NSW Rural Fire Service and the NSW Fire Brigades. An emergency evacuation plan is not recommended as a condition of consent.	Yes

## 11) Recommendations

The following recommendations are made for the bushfire protection measures for the proposed residential development of alterations and additions at No 39 Ballyshannon Road, Killarney Heights and are based upon the relevant provisions of the NSW Rural Fire Service guideline entitled *Planning for Bushfire Protection 2006*.

1) <u>New Construction</u> All elevations	New construction shall comply with section 3 [construction general] and section 9 (BAL FZ) Australian Standard AS3959-2009 'Construction of buildings in bush fire-prone areas'.
2) <u>New Construction</u>	New construction can be designed and installed in accordance with NASH Standard for Residential and Low-rise Steel Framing, Part 1: Design Criteria or Part 2: Design Solutions.
3) <u>Electricity and gas supplies</u>	As far as practical, new electricity and gas supplies shall be installed in accordance with the requirements of 4.1.3 of PBP. Note: 4.1.3 of PBP requires that ' <i>where practical, electrical transmission lines should be underground</i> ' and ' <i>the location of gas services will not lead to ignition of surrounding bushland or the fabric of the building</i> '.
4) <u>Asset Protection Zones</u>	<u>Asset Protection Zones</u> : At the commencement of building works and in perpetuity, the entire property shall be managed as an inner protection area as outlined within PBP and the NSW RFS document 'Standards for asset protection zones.' <i>Note: Although the Asset Protection Zone requirements are listed as a recommendation, the site has been landscaped and is maintained to a standard that complies with the requirements of 'Planning for Bushfire Protection 2006' for Inner Protection Area Requirements.</i>



5) <u>Water Supplies</u>	Reticulated water supply is located on the adjoining road at regular intervals and is easily accessible. Additional water supplies are not recommended as a condition of consent.
6) <u>Adjacent Structures</u> [class 10b]	At the planning stage, class 10b buildings in bushfire prone areas should be non-combustible. [Class 10b buildings include a fence, retaining or free-standing wall, swimming pool or the like.]
7) <u>Emergency Risk Management</u>	The need to formulate an emergency evacuation plan has been discussed and it is advised that the residents should complete a <i>Bush Fire Survival Plan</i> as formulated by the NSW Rural Fire Service and the NSW Fire Brigades. An emergency evacuation plan is not recommended as a condition of consent.

## 12) Summary

This report consists of a bushfire risk assessment for the proposed residential development of alterations and additions at No 39 Ballyshannon Road, Killarney Heights.

The report concludes that the proposed development is on designated bushfire prone land and the legislative requirements for development in bushfire prone areas are applicable.

The proposed development will be constructed to the minimum standards required in accordance with the guidelines of *Planning for Bushfire Protection 2006*.

This report has considered all of the elements of bushfire attack and provided the proposed development is constructed in accordance with the recommendations included in section 11 of this report, it is my considered opinion that the development satisfies the Objectives and Performance requirements of the *Building Code of Australia, Planning for Bushfire Protection 2006 and Australian Standard AS3959, 2009*.

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*Notwithstanding the precautions adopted, it should always be remembered that bushfires burn under a wide range of conditions and an element of risk, no matter how small always remains, and although the standard is designed to improve the performance of such buildings, there can be no guarantee, because of the variable nature of bushfires, that any one building will withstand bushfire attack on every occasion.*

*This Report is a Bush Fire Hazard Assessment that provides the required information to assist Local Council and the Rural Fire Service in determining compliance in accordance with Planning for Bushfire Protection and AS 3959, 2009. The Local Council is the Final*

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*Consenting Authority and the construction of the building must comply with the recommendations included in the Council's conditions of consent.*

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Ron Coffey – Bushfire Safety Engineer  
Grad I Fire E [Institute of Fire Engineers - 1973]  
Grad Cert Fire Safety Eng. [UWS - 2003]  
Grad Dip Building in Bushfire Prone Areas [UWS – 2005]  
Ass Prof Cert in Expert Evidence in the Land & Environment Court [UTS – 2005]  
Member - Institute of Fire Engineers  
Member - Fire Protection Association Australia



*Planning for Bushfire Protection*  
*Fire Protection Association of Australia*  
*BPAD-A Certified Practitioner/Certified Business*  
*Certification No BPD-PA09328*  
*0408 220 443*

### **13) References**

#### **Australian Building Codes Board [2005]**

Building Code of Australia  
Volumes 1&2  
Canprint

#### **Australian Building Codes Board [2001]**

Fire Safety Engineering Guidelines  
Edition 2001  
ABCB Canberra

#### **D. Drysdale D. [1998]**

Introduction to Fire Dynamics 2<sup>nd</sup> Edition  
John Wiley & Sons Ltd

#### **NSW Government Environmental Planning and Assessment Act [1979]**

Part 79BA – Consultation and development Consent – Certain Bushfire Prone Land  
NSW Government Printer

#### **Planning NSW [2006]**

Planning for Bushfire Protection 2006

A Guide for Councils, Planners, Fire Authorities, Developers and Home Owners

*This document provides the necessary planning considerations when developing areas for residential use in residential, rural residential, rural and urban areas when development sites are in close proximity to areas likely to be affected by bushfire events and replaces Planning for Bushfire Protection 2001.*

*[This document is essential reading: Download a copy from the RFS website or purchase a copy through the NSW Government Online Shop or phone 9228 6333](#)*

#### **Ramsay C & Rudolph L [2003]**

Landscape and Building Design for Bushfire Prone Areas  
CSIRO Publishing

#### **Standards Australia [2009]**

Australian Standards 3959  
Australian Building Code Board